

FIG. 1A

| 179 191 182 | 134 | 138 | 119 | 108 | 192 | 206 | 124 | (131 | 98 | 115 | 111 | 105 | 12 |
|--------------------------|-----|-----------------------|---------|----------------|------------|-----|--|----------------------|------------|-----------------|---|-----------------|------------------|
| 155 100 103 | 164 | 219 | 193 | 43 | 75 | 84 | 66 | 73 | 230 | 40 | 82 | 198 | 122 |
| 108 162 176 | 205 | 78 | 0 | 28 | 29 | 24 | 11 | 0 | 31 | 18 | 37 | 224 | 120 |
| 153 167 240 | 41 | 28 | 81 | 194 | 198 | 217 | 194 | 227 | 78 | 39 | 28 | 216 | 108 |
| 149 186 255 | 75 | 20 | 248 | 166 | 177 | 182 | 165 | 189 | 231 | 79 | 38 | 248 | 119 |
| 177,236 49 | 15 | 47 | 204 | 178 | 110 | 111 | 120 | 166 | 248 | 43 | 53 | 230 | 192 |
| 183 <mark>254</mark> 54 | | i handalari sinak e i | | | P019272471 | | | Seemanno de servicio | | :5:5:5% | *************************************** | 191 | 100 |
| 177,204 46 | | de de com | | | | | | 201 (80 (82 h | | or a common que | | arazina cometai | |
| 1,65 <mark>238 70</mark> | | 72900 | Vitago. | | r gray | | | | | | | | |
| 170216 54 | | | die | | | | | | | _ | 8 | 48 | KONKING ON THE |
| 186 218 47 7 | | | 14509 | | | | | 77.0% | | | | | District Control |
| 147165209 | | | | | | | #************************************* | | | | | : | |
| 159 175 228 | | | | | | | 8572, 1887 | 2.5 | PREMISSION | | | | |
| 122 (1/33 (135) | | | | | | | 83 | | 6 | | | 254 | |
| 105 101 107 | | | | 41.5 | | | | | | | | لـــــا | |
| 176163123 | | | | , ** , as g #4 | | | | ! | | | | | |
| 250 201 244 | 245 | 203 | PEF | 98 | 118 | 94 | 122 | 101 | ઉદ્યા | 125 | 227 | 206 | 118 |

FIG. 1B

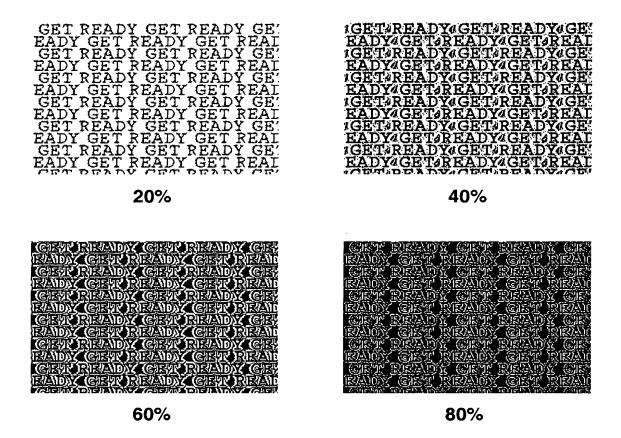
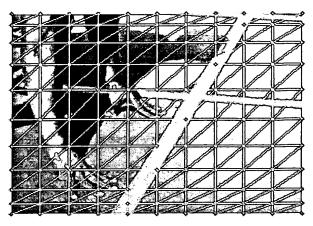


FIG. 2



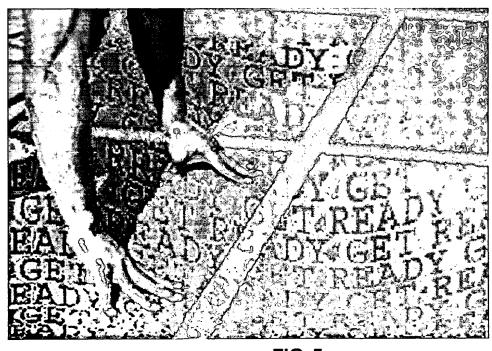
Warping grid

FIG. 3



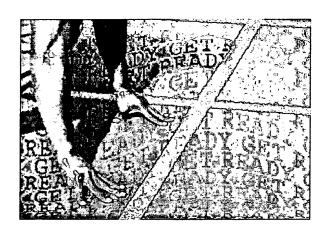
Mask

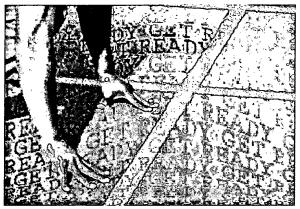


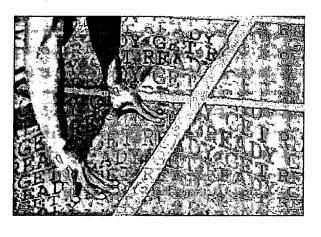


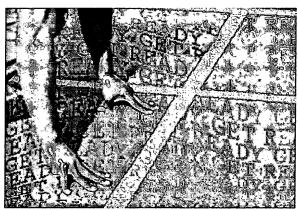
Dithered image

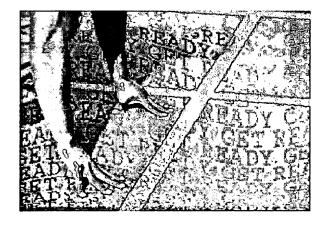
FIG. 5











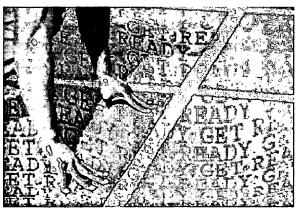
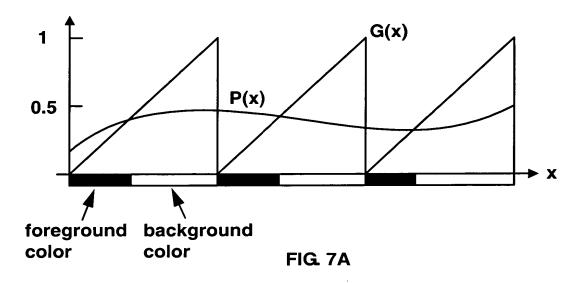


FIG. 6



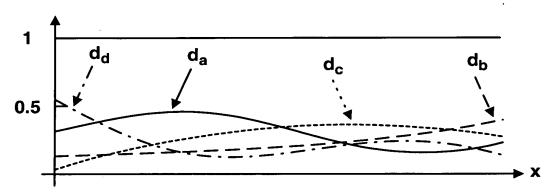
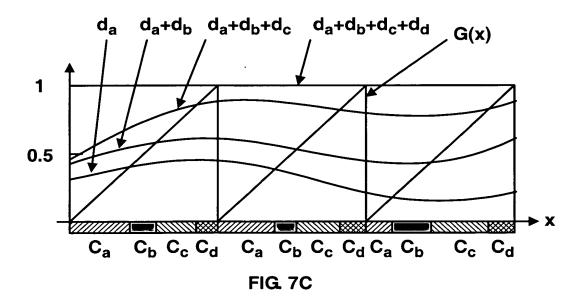


FIG. 7B



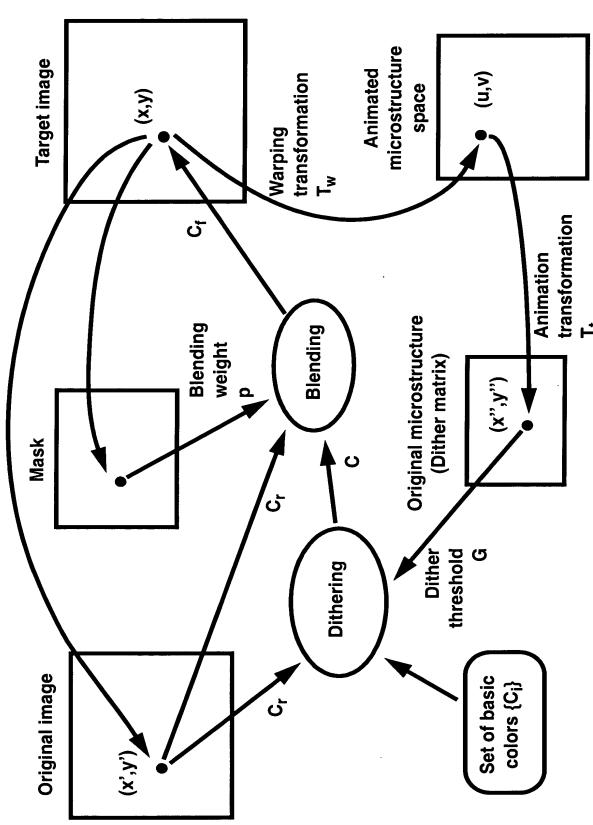
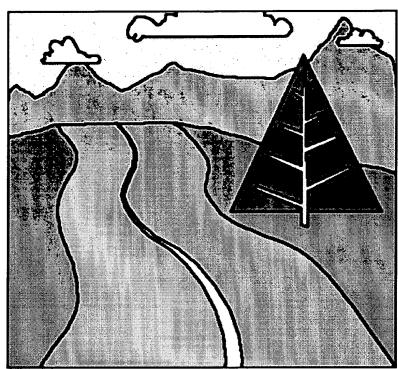
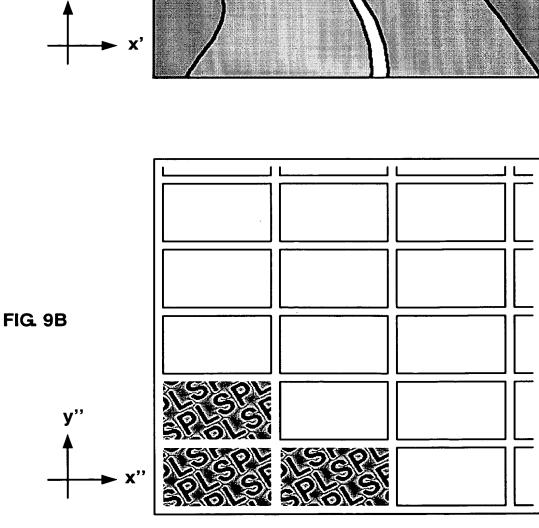
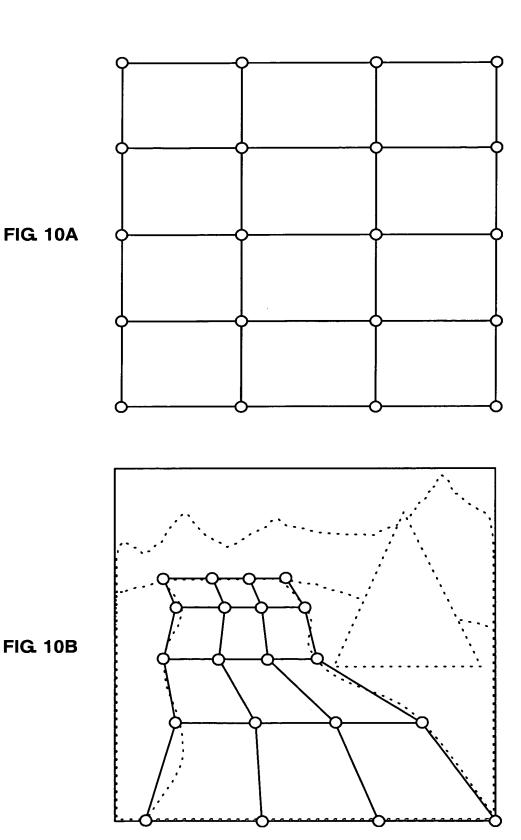


FIG 8

FIG. 9A







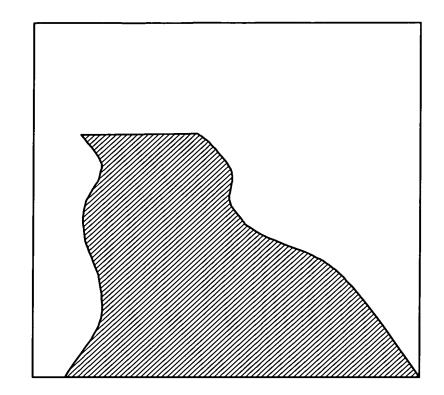


FIG. 11A



FIG. 11B

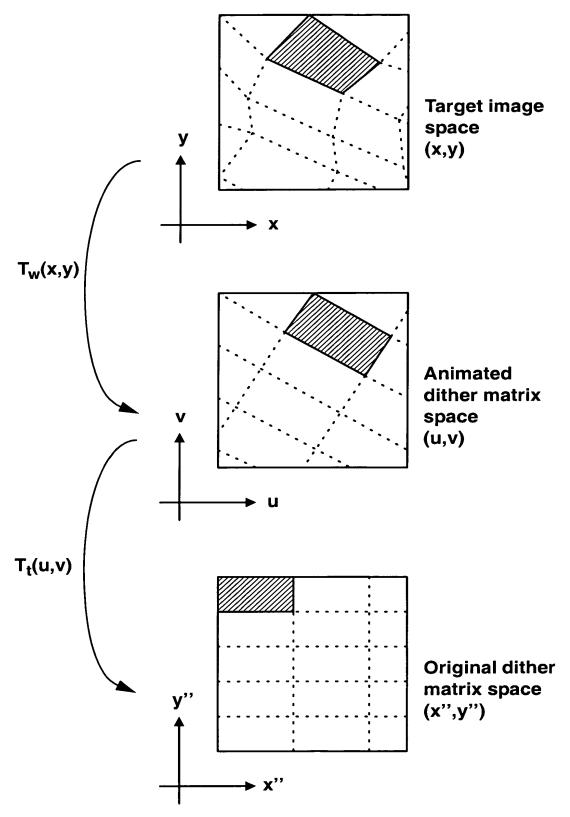


FIG. 12

Original grid Warped grid FIG. 13A

Microstructure

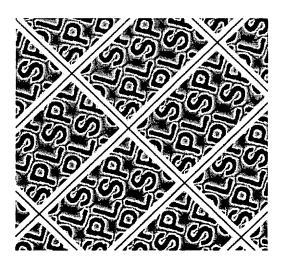


FIG. 13B

Warped microstructure



FIG. 13C

FIG. 14A

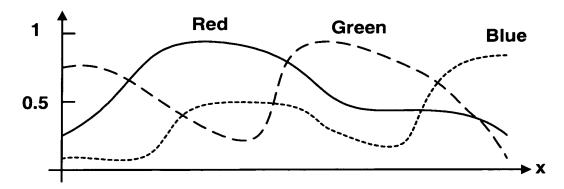
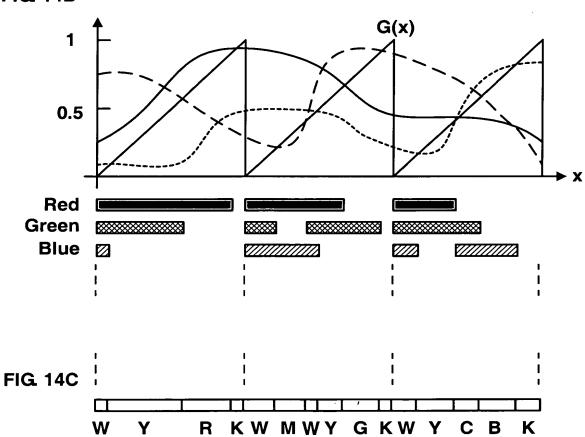


FIG. 14B



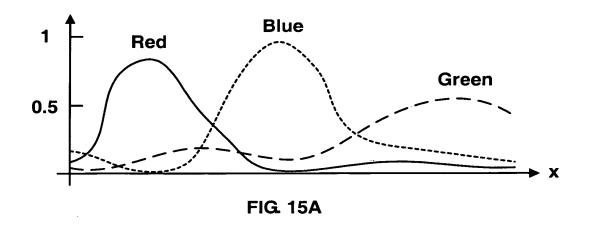
R: Red

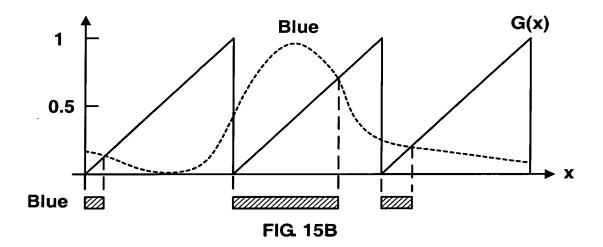
C: Cyan

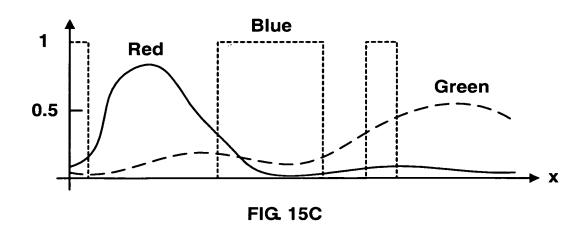
W: White K: Black

G: Green **B:** Blue

M: Magenta Y: Yellow

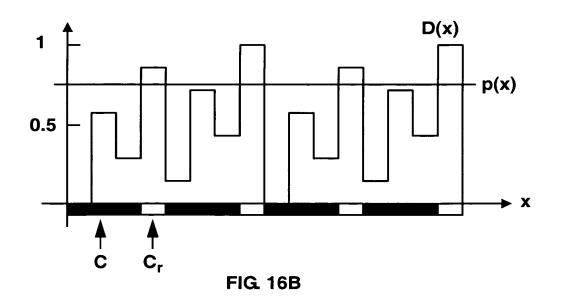






| 0 | 8 | 2 | 10 |
|----|----|----|----|
| 12 | 4 | 14 | 6 |
| 3 | 11 | 1 | 9 |
| 15 | 7 | 13 | 5 |

FIG. 16A



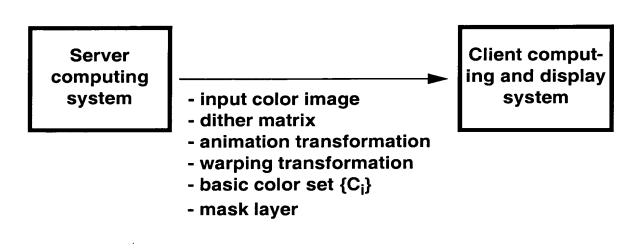


FIG. 17

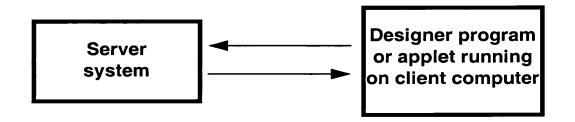


FIG. 18

4

Designer logs himself on server synthesizing system

Designer creates the animated microstructure image on his computer by interacting with the server

Designer signs a licensing agreement and is authorized to obtain the designed data elements and the animated microstucture rendering software

FIG. 19

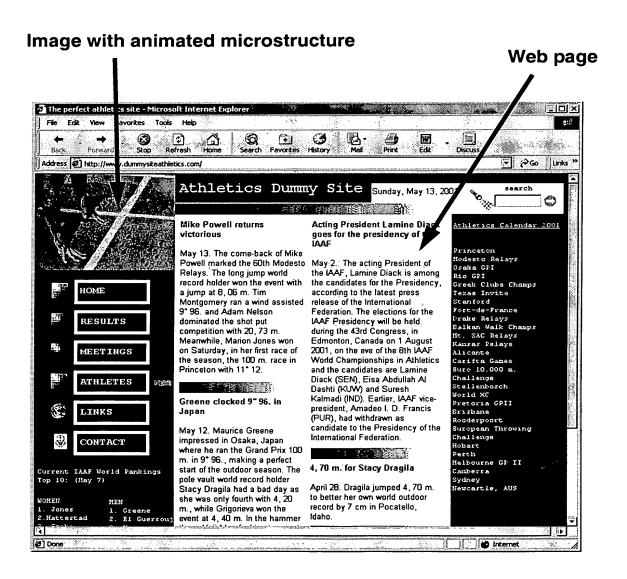


FIG. 20

1